of tripsine, by V. Nikolsky.—On the *bougry* of the Caspian, by A. Zaitseff. They do *not* have the uniformity of structure supposed by Baer; they often cross one another at angles of 20° to 30°, and some of them follow a north-eastern direction, while others, close by, run west and east; and they contain not only broken mussels, as affirmed by Baer, but also plenty of quite full mussels of *Cardium trigonoides*, *Dreissena polymorpha*, *rostriformis*, and *caspia*. The theory of Baer altogether is based on an insufficient supply of data, and the structure of the *bougry* ought to be better explored before pronouncing as to their origin.—On the sulphur ores at Tetushi, on the Volga, by G. Wilenius.

The fourth volume of the "Collection of Materials for the Description of Caucasus,"[1] published by the schoolmasters of Caucasus, contains, as usual, much valuable information, especially of historical and ethnographical character. M. Hahn contributes a most valuable paper of 250 pages, in which he has compiled all information on the Caucasus he was able to discover in authors since Homer up to the fifth century of our era. The information gathered from Byzantine writers who have much more written about the Caucasus, will be embodied in a second part of the work. The importance of this very careful work, where textual translations are given of passages dealing with the Caucasus and its inhabitants from no less than eighty Greek and Latin authors, will be fully appreciated by all those who have to deal with the geography of the country. A complete index will much facilitate the research. M. Eivazoff gives a description of the Aisores of Koilasar, of their manner of life and customs, followed by an Aisor alphabet; and M. Arkannikoff contributes a detailed description of the town Temruk and of the Temruk mouth of the Kuban River. In the second part of the same collection we find a series of interesting notes on the Tchokh village in Daghestan, on Daghestan legends, and on the life of Abkhazes; a collection of Little Russian songs from Kuban; and two lectures on the beautiful seven-centuries-old Georgian poem of Shota Rustaveli.

SCIENTIFIC SERIALS

THE *Journal of Physiology* for July contains:—Note on the cause of the first sound of the heart, by G. F. Yeo and J. Barrett.—An experimental investigation to ascertain the action of veratria on a cardiac contraction, by S. Ringer (plate 2).—Concerning the action of small quantities of calcium, sodium, and potassium salts upon the vitality and function of contractile tissue and the cuticular cells of fishes, by S. Ringer and D. W. Burton.—A study of the action of the depressor nerve, and a consideration of the effect of blood-pressure upon the heart regarded as a sensory organ, by H. Sewall and D. W. Steiner (plate 3).—On secondary and tertiary degenerations in the spinal cord of the dog, by C. S. Sherrington (plates 4 and 5).—On the structure and rhythm of the heart in fishes, with especial reference to the heart of the eel, by S. A. M'William (plate 6).—The innervation of the heart of the Slider terrapin (*Pseudemys rugosa*), by J. Wesley Mills.—Note on the sound accompanying the single contraction of skeletal muscle, by E. F. Herroun and G. F. Yeo.

The Journal of Anatomy and Physiology for July contains: Account of some recent experiments on the effects of very low temperatures on the putrefactive process and some vital phenomena, by J. J. Coleman and J. G. McKendrick, M.D.—Accessory lobe to the left lung, by L. Humphry, M.B. (plate 17).—Case of abnormal development of the reproductive organs of the frog, by A. F. S. Kent (plate 18).—Rotation and circumduction, by Thomas Dwight, M.D.—Movements of the ulna in pronation and supination, by C. W. Cathcart, M.B.—Anatomy of a hydro-monocephalous brain, by A. Hill, M.D.—Corpus callosum in the adult human brain, by Dr. J. Hamilton, (plates 21 and 22).—Tumours in animals, by J. B. Sutton (plate 23).—Hyomandibular clefts and pseudobranchs of Lepidosteus and Amia, by R. Ramsay Wright (plate 24).—Anatomy of *Spinal bifida*, by Prof. Humphry.—Notes on some variations of the shoulder muscles, by W. B. Ransom.—Tarsus and Carpus, by Prof. K. Bardeleben.

The Quarterly Journal of Microscopical Science for July contains:—On spermatogenesis in the rat, by Herbert H. Brown (plates 22 and 23).—A simplified view of the histology of the striped muscular fibre, by B. Melland (plate 24).—On the development of a freshwater macrurous crustacean (*Atyephora compressa*), by C. Ishikawa (plates 25–28).—On the supposed communication of the vascular system with the exterior in Pleurobranchus, by A. G. Bourne, D.Sc. (plate 29).—Observations on the nervous system of Apus, by P. Pelseneer (plate 30).—Note on the chemical composition of the zoocytium of *Ophrydium versatil*, by W. D. Halliburton, M.D.—The development of *Peripatus capensis*, by A. Sedgwick, M.A. (plates 31 and 32).

The Journal of the Royal Microscopical Society for August contains:—The pathogenic history and the history under cultivation of a new bacillus (*B. alvi*), the cause of a disease of the hive bee hitherto known as foul brood, by F. R. Cheshire and W. Watson Cheyne, M.D. (plates 10 and 11).—Experiments on feeding some insects with the curved or "comma" bacillus, and also with another bacillus (*B. subtilis?*), by R. L. Maddox, M.D.—On four new species of the genus Floscularia and on five other new species of Rotifera, by C. T. Hudson, LL.D. (plate 12), with the usual summary of current researches.

The American Naturalist for September contains the reputation of the Lantern fly (*Fulgoræ lanternaria*), by John C. Brauner. To the bibliographical references made in an editorial note to this paper may be added the spirited discussion on the whole subject in the *Entomological Magazine* of 1836.—The age of forest trees, by J. T. Campbell.—The relations of mind and matter, by C. Morris.—The exhalation of ozone by odorous plants, by J. M. Anders and G. B. M. Miller.—Glacial origin of Presque Isle, Lake Erie, by J. D. Ingersoll.—Recent literature and general notes.

The Proceedings of the Linnean Society of New South Wales, vol. x. Part 1 (June 4).—The papers in this part are of great interest, and worthily sustain the credit of this most active and energetic Society. *Zoology* — Dr. R. von Lindenfeld, On Australian sponges, part iv. The Myxospongiæ, with 5 plates. On *Amœba parasitica*, a new protozoon infesting sheep. On the Phoriospongiæ.—William Macleay, On a new snake from the Barrow Ranges, and On some reptiles from Herbert River.—A. S. Oliff, On some Ceylonese Coleoptera.—J. Brazier, Synonymy of some shells described by Dr. Gray.—W. A. Hasnell, On some Australian Amphipods, with 9 plates.—Captain Hutton, Revision of the Toxoglossate mollusca of New Zealand.—J. Douglas Ogilby, Some rare Port Jackson fishes. *Botany*—Dr. W. Woods, Australian Proteaceæ. *Palæontology*—F. Rattle, On a Devonian Australian fossil allied to Worthenia, with a plate; also on the Glacial period in Australia; and on the meteorology of Mount Koskiusko, by Dr. von Lindenfeld, with two plates.

Morphologisches Jahrbuch, Band 11, Heft 1, contains:—Contribution to a knowledge of the renal organ of the Prosobranchia, by Dr. B. Haller (plates 1–4).—On the morphological significance of the nucleus, by Dr. W. Pfitzner (plate 5).—Short contributions to a knowledge of some marine Rhizopods, by O. Bütschli (plates 6 and 7).—On the significance of the *Linea semicircularis Douglassii*, by Bernhard Solger.—Notes on Apseudes, by J. E. V. Boas.—Short Notes.

Zeitschrift für wissenschaftliche Zoologie, Band 42, Heft 1, July 24, contains:—A biographical sketch of Carl Theodor Ernst von Siebold, one of the founders of the *Zeitschrift*, by Ehlers (with a photograph).—On the significance of the nucleus from the point of view of evolution, by Prof. A. Kölliker.—Researches on some Flagellates and kindred organisms, by Dr. C. Fisch (plates 1 to 4).—On the anatomy of the Amphisbœna, by Dr. Carl Smalian (plates 5 and 6).

Band 42, Heft 2, August 18, contains:—An essay on the history of German slugs, and on their European allies, by Dr. H. Simroth. This monograph is illustrated by five plates, that of the species being coloured.

SOCIETIES AND ACADEMIES

PARIS

Academy of Sciences, October 5.—M. Bouley, President, in the chair.—Spectral analysis of the elements of the terrestrial atmosphere, by M. J. Janssen. The author describes the special arrangements that have been made at the Meudon

[1] "Sbornik materialov dla opisania myestnostei i plemen Kavkaza." Tiflis, 1884.

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Observatory for the study of the hydrogen, oxygen, and other substances present in the terrestrial atmosphere. Four tubes, one 60 metres long, have already been fitted up in a chamber in which solar, electric and other lights can be employed under favourable conditions.—Thermic studies of the aromatic series: the phenols of complex function, by M. Berthelot. New characters derived from thermo-chemistry have been determined for the purpose of distinguishing the various isomerous groups of the aromatic series and disclosing the phenolic function belonging more particularly to some of these groups. In order to establish the general character and importance of this new instrument of research, the author continues his experiments with the compounds derived from the oxybenzoic acids, to which the synthesis of vanilline and the allied substances has given so much interest. The results already obtained establish a perfect agreement between the thermic indications and the chemical theories respecting the complex phenolic functions.—The treatment of mildew and rot with a mixture of lime and sulphate of copper, by M. A. Millardet. During the present season M. Nathaniel Johnston has applied this new process to 50,000 vines in the Médoc district with complete success. The plants so treated are in a perfectly healthy state, while those not treated are in a wretched condition.—On the destruction of mildew by the sulphate of copper, by M. A. Perrey. A solution of 5 per cent. of sulphate of crystallised copper has this year been successfully and economically applied to vineyards in Burgundy hitherto unsuccessfully treated with sulphur.—Ravages of mildew in the northern districts of Touraine during the present year, by M. Larreguy de Civrieux. The disease broke out suddenly a few days after a violent storm in July, attacking several varieties of the vine and the oak trees of the surrounding plantations to the exclusion of all other plants.—Note on the quadratic forms in the theory of the linear differential equations, by M. Halphen.—On the physiologic action of the salts of rubidium, by M. Ch. Richet. Subcutaneous and intra-venous injections of the chloride of rubidium applied to frogs, fishes, rabbits, guinea-pigs, and pigeons, show that this metal has the same toxic effect as potassium, but somewhat less virulent.—On the internal phenomena of muscular contraction in the striated primitive fasces in *Corethra plumicornis* and the frog, by M. F. Laulanié.—Line of development followed by the inoculated virus of tuberculosis in man, the rabbit, and guinea-pig: application to the study of inoculation and re-inoculation for tuberculosis, by M. S. Arloing.—A remarkable vegetable centre in the peninsula of Brittany, by M. L. Crié. Of this vegetable zone the characteristic species appear to be *Narcissus reflexus*, Lois.; *Eryngium viviparum*, Gay; *Omphalodes littoralis*, Leh.; and *Linaria arenaria*, D. C.—Application of thermo-chemistry to the explanation of geological phenomena; general principles; ores of manganese, by M. Dieulafait. The principle is laid down that of all the natural combinations of each metal, that which developes the greatest heat in its formation occurs most extensively in nature, and must be regarded as its principal ore. Applying this principle to the study of manganese, the author finds that the ores of this metal exist in nature in the relative proportions and under the conditions anticipated by the laws of thermo-chemistry.—On the whirlwinds observed by aëronauts, by M. Diamilla-Müller. These whirlwinds are attributed to the collision of two atmospheric currents coming from opposite directions, and are compared with the eddies produced in streams by analogous causes.—Note on a meteor observed at Saigon, Cochin-China, on August 22, 1885, by M. Réveillère.—Kinematics of the locomotion of quadrupeds: trajectories and comparative velocities of the pastern and hoof of the horse at the different phases of its motion.

STOCKHOLM

Academy of Sciences, September 16.—The following paper was presented and accepted for publication in the *Proceedings*:—"Nouvelles Observations sur les Traces d'Animaux et d'autres Phénomènes, d'Origine purement mécanique, décrits comme Algues fossiles," by Prof. A. G. Nathorst.—Experiments to determine with the galvanometer the limits of elasticity and the absolute tension of iron wire of different thickness and with varying contents of carbon, by Dr. P. Isberg.—Researches on the influence of temperature on the electromotoric force of certain electric pile combinations, by Dr. F. Kahlmeter, both the latter papers being presented and explained by Prof. Edlund.—Prof. Wittrock referred to a report left by the late Dr. Lönnroth on his botanical journey to Gothland and Östergötland, chiefly to study the Hieracia, at the expense of the Academy, and to a paper presented at a previous meeting and prepared in the Botanical Section of the Natural History Museum by Herr R. Boldt.—Contributions to our knowledge of the chlorophyllophyceæ of Siberia. He further presented and explained the two following papers, viz.:—Contributions to our knowledge of the development of the physiological tissue of some algæ, by Herr N. Wille, and contributions to the flora of the American Desmidicæ, by Herr G. Lagerheim.—Prof. Chr. Aurivillius presented a paper, "Conspectus Generum et Specierum Microceridarum," and gave a review of the same. He further exhibited living specimens of the slave-keeping ant, *Polyergus rufescens*, recently found by him near Stockholm.—Prof. Nilsson presented a paper prepared by himself and Prof. O. Petterson, "Nouvelle méthode pour déterminer la densité de vapeur des corps volatisables en même temps que la température y appliquée," and gave a review of its contents.—The Secretary (Prof. Lindhagen) presented the following papers, containing the results of researches made at the Upsala Chemical Laboratory:—On the production and nitrification of kumenylacryl acid; on the ortoderivates of kumenylacryl acid and the new indigo and chinolin-derivates obtained from the same; on the meta-derivates of kumenylacryl acid, and on derivates of kumenylacryl acid formed through substitution in the group of the acryl acid: all four by Dr. O. Widman.—Researches on the dependence of galvanic resistance in certain alloys of tin and bismuth on time, by Dr. G. Bäcklin.—On capacity of saturation and atomic weight, by Dr. J. R. Rydberg.—On Polyarsenite, a new mineral from the mine Sjögrufvan, in the province of Örebro, by Herr L. J. Igelström.—Remarks on the genus Cysteosoma, Guérin-Méneville, by Dr. C. Bovallius.—On the Lake Wettern and the formation of Visingsö, an island, by Dr. G. Holm.

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